THE WAR AND THE SUPPLY OF CAPITAL

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By the end of the year 1916 it had become evident that the prophecies of economists and bankers concerning the effect of the European war upon the rate of interest in America had miscarried, despite the fact that these prophecies were all in strict accordance with orthodox economic reasoning. It had seemed perfectly clear that since the rate of interest was a price, and was therefore governed by supply and demand, it would rise. For the supply of capital which we had been receiving from Europe was sure to be cut off. Europe was certain to make a demand upon us for some of the capital which she had loaned us in past decades by throwing American securities upon our market at a price which would tempt capital abroad. She would also try to borrow through the flotation of government bonds, but these we rather thought would not find a ready market in a country so little addicted to saving and investment as America. The consequence would be a rise in the rate of interest, brought on by this checking of supply and the increase in demand.

Certainly one never felt himself upon safer and saner ground than when prophesying after this manner in the class-room, on the platform, or in the press, and yet it did not come to pass. Our supply was cut off, of course. By the resale of American securities and gold and by the flotation of government loans during 1915 and 1916 Europe was more successful in demanding and obtaining capital here than either she or we had thought possible. Between five and six billion dollars of capital were drawn from this country during those two years. In addition to this export demand for our capital we were expanding our plants at an unprecedented rate in our own country. All expectations of an increased demand for capital in the United States were therefore realized two or three times over. But at the end of 1916 the rates for both short-time bank loans and long-time investment loans were still low.

The obvious explanation of the failure of our prophecy would seem to be that the supply of capital had increased in such manner as to remain equal to the demand at a low rate of interest. The term supply of capital, as here used, refers to the excess of our production over our consumption; this excess constitutes our national savings, although one hesitates somewhat to use the latter term in this connection. Savings connote abstinence, and the

most careful observer of American life could hardly have found any increase in abstinence to explain the increased volume of savings. The reasons for the increase are to be found, not in "the expression of our indomitable national spirit through self-abnegation," but in the incidence of the institution of war upon our industrial institutions and processes. The increase in capital was largely unconscious so far as any general realization of its occurrence was concerned; it was costless, also, in the sense that it involved no lowering of the standard of living such as is connoted by the term "abstinence."

This hypothesis concerning the effect of the war upon savings is supported by the astounding feats of war finance which this country has been able to accomplish. During the summer and autumn of 1917 our economists and bankers were alarmed at the sums named by government officials as necessary to carry on the war. Fifteen billion dollars seemed to them an impossible figure, in view of the fact that only goods and services which represented an excess of production over consumption were available for carrying on the war. Two to three billion dollars was a figure commonly named by authorities as representing the normal savings of the United States; to multiply this by five seemed a Herculean task, to be accomplished only at a sacrifice comparable to that of the European peoples. But the war has been financed with only a slight decline in the state of well-being of the middle and upper classes, and with no decline in that of the great mass of laborers. It is no valid objection to this to say that this was done by inflation. The United States has furnished a large quantity of goods and services to the Allies as well as to its own government for the prosecution of the war. These represent production in excess of civilian consumption; they are savings, and give color to the hypothesis that the supply of capital had increased enormously at the time of our entrance into the war, and that it was this fact which made possible our feats in war finance.

The hypothesis here set forth concerning the supply of capital was first formulated in December, 1916. The statistical material which was then compiled, and that which has since become available, warrant the conclusion that the excess of production over consumption in the United States has been approximately as follows:

TABLE I

1913	$6,500,000,000
1915	9,000,000,000
1916	14,500,000,000
1917	18,000,000,000
1918	22,000,000,000

The field of capital accumulation has long been one of the darkest portions of economic statistical knowledge. There are no figures compiled which purport to show the addition to the wealth of the nation through savings. To get some quantitative expression of saving it is necessary, therefore, to utilize figures gathered for other purposes by various private and other agencies, and to interpret the data there presented in such manner as to throw light upon the hypothesis here under consideration.

The addition to the wealth of the nation through savings in the period previous to the European War was determined by comparing the wealth of the United States in 1912 with a similar inventory for 1904, as shown by the census volume on "Wealth, Debt, and Taxation," 1913. In comparing these two inventories to determine the amount added by production during this period, it was necessary to eliminate increases due to price changes and to the increased value of land. After determining the increase, the amount was distributed among the various years on the assumption that the increase was progressive, and a like increase was assumed for 1913.

TABLE II.—ESTIMATES OF CAPITAL WEALTH IN THE UNITED STATES, 1912 AND 1904
(*Data from Bureau of the Census: "Wealth, Debt and Taxation," V. I, p. 21*)
(In millions of dollars)

Item	1912	1904	Increase
Real Estate	110,676	62,341	48,335
Live stock, farm implements	7,607	4,919	2,688
Manufacturing, railroads, and public utilities	32,505	19,383	13,122
Gold and silver	2,617	1,999	618
All other	34,334	18,462	15,872
Total	187,739	107,104	80,635

According to the above figures the wealth of this country other than real estate increased by $32,000,000,000 during the eight years 1904-12, or an average of $4,000,000,000 per annum. Real estate increased $48,000,000,000, or about $6,000,000,000 per annum. Much of the increase in the money value of real estate does not represent savings, but is the result of a rise in land values brought about by increased population and industrial activity in the community. The building permits issued in the larger cities give some evidence of investment in new buildings. This amounted in 1913 to about $1,000,000,000 for 273 large urban communities. Besides these improvements in the real estate of large cities

there were large investments in towns and villages, and in farm improvements such as draining, clearing, fence and road building, and orchard planting and cultivation. An examination of the real estate assessments of twenty-four states which separate improvements on real estate from land values shows that improvements constitute approximately 40 per cent of the land values. This group includes such diverse communities as Arizona and Idaho on the one hand, and Greater New York on the other. The total assessed value of these twenty-four states is over $32,000,000,000; the total exclusive of New York City is $24,000,000,000. It has therefore been assumed that 40 per cent of the increase in real estate values during the period 1904-12 was to be ascribed to improvements. The average annual increase in the value of real estate improvements was therefore, $2,400,000,000. This, added to the increase of $4,000,000,000 per annum in other wealth, gives a total of $6,400,000,000 as the increase in produced wealth per annum for the period.

Of this increase about $1,000,000,000 is due to a rise in the price level, and not to additional wealth production and saving. This leaves $5,400,000,000 as the average annual supply of capital for the period; but the increase during the years just before the war was more rapid, and undoubtedly reached the figure of $6,500,000,000 given above. This estimate is below the estimate of $7,500,000,000 made by George E. Roberts of the National City Bank.[1] He, however, makes no deduction for the increase in the price level from 1904 to 1912. It is also slightly under the estimate of Sir George Paish which appeared in the *London Statist* May 23, 1914. He places the annual growth of wealth in the United States at £1,400,000,000.

With this figure as a starting point the next problem is to discover some method of arriving at the increase in savings for subsequent years. The securities absorbed by investors of the nation furnish an approximation to the volume of savings of the nation. The following table shows the available statistics concerning securities issued and marketed, together with gold and securities repurchased from abroad during the period 1913-18. The amount increased from $2,053,000,000 in 1913 to $6,563,000,000 in 1916 and $14,010,000,000 in 1918. It takes no cognizance, however, of the corporate securities not listed by the *Journal of Commerce*. That these are considerable in volume becomes clear when we com-

[1] *Annals of the American Academy of Political and Social Science*, November, 1916.

pare the *Journal of Commerce* figures with the actual increase in capital obligations outstanding for all corporations. The total capital stock and bonded and other indebtedness outstanding for all corporations in the United States for the years 1910-13 are available in the reports of the Commissioner of Internal Revenue. During this period the increase for all corporations reported was $17,501,954,000. The *Journal of Commerce* reports the new securities issued in the same period as $7,157,084,000. It is evident that even allowing for the refundings in the *Journal of Commerce* figures and the discounts in the total figures there is a considerable volume of corporate securities of which the available statistics take no cognizance. It seems reasonable to put this at a minimum of $1,000,000,000 per annum for ordinary years, while in a year of great activity in corporate financing like 1916 it no doubt ran as high as $1,500,000,000. During 1918 it has been reduced materially. If these estimates are added to the subtotal which shows the published figures, we arrive at a grand total of $3,053,000,000 for 1913; $7,563,000,000 for 1916; and $14,510,000,000 for 1918.

TABLE III.—CAPITAL INCREASE SHOWN BY INVESTMENTS DURING 1913 AND 1915-18
(In millions of dollars)

Item	1913	1915	1916	1917	1918
	$	$	$	$	$
Industrial and railroad securities*	1,645	1,435	2,186	1,529	1,345
Government securities					
Foreign	.....	1,275	1,381	805	640
United States	.....	.....	.....	5,833	11,760
State and municipal bonds**	408	493	496	445	265
Gold and securities repurchased from abroad	.....	1,300	2,000	700	.....
Sub-total	2,053	4,503	6,063	9,312	14,010
Other securities, less deductions for refunding and for discount	1,000	1,000	1,500	1,000	500
Total	3,053	5,503	7,563	10,312	14,510

*Reported by the *Journal of Commerce.*
**Reported by the *Bond Buyer.*

While this table no doubt proves that there has been a large increase in the volume of savings in this country since the outbreak of the European War, it cannot be taken as a safe index either of the total volume or of the relative savings of the different years. Only about one-half of the capital accumulations of this country come to the investment market within a normal year.

During 1917 and 1918 this ratio was increased by the necessities of war finance.

Two of the principal sources of capital accumulation in America are industrial and agricultural profit. The failure to realize this fact is probably responsible for the derogation in which we have held ourselves in this matter of savings. The volume of savings in the United States as compared with other countries has usually been underestimated, partly because of the slight attention given to certain sources of accumulation and partly because of a failure to distinguish between accumulation and investment.

In such a country as France, for example, a much larger proportion of the annual accumulations pass through the investment market than in the United States. France is less industrialized than the United States; the corporate form of business organization is less common; and there are fewer opportunities within the country calling for capital. The consequence is that saving is likely to take the form of an investment through the purchase of securities, and quite likely of foreign securities. Such saving becomes evident and lends itself readily to statistical measurement. But a comparison of annual savings based upon the sale of securities to investors would be valid only if the same proportion of savings in France and the United States were put into securities. There is in France nothing to correspond to the great volume of "corporate savings"[2] annually accumulated in the United States. The additions to corporate surplus do not normally pass through the security market and so commonly attract little attention, but they are none the less real. The railroads and industrial concerns in the United States have grown at a rapid rate, and in recent years they have added largely to the capital accumulations of the country through their additions to surplus.

The other institution which contributes largely to our capital accumulation without, in normal times, adding materially to the demand for securities is the American farm. The machine character of American farming, with its large use of capital per man and its rapid development, has called for capital accumulation; and the larger part of the savings which have gone into farm improvements has been made on the farm itself.

An examination of corporate savings shows a striking increase

[2] "Corporate savings" is that portion of the corporate net earnings not distributed to the shareholders as dividends. The term is familiar to all students and colleagues of Professor Henry C. Adams of the University of Michigan, who has for many years insisted upon the importance of the corporate institution as an instrument of capital accumulation.

in this form of capital accumulation; only a small portion of these savings ever came on the investment market. The expansion of American industrial plant proceeded at an unprecedented rate during 1915, 1916, and 1917, and the natural investment for the savings of the business enterprise was in extensions to its own plant and working capital. The following table shows the large increase in savings of corporations.

TABLE IV.—CORPORATE INCOME, DIVIDENDS, AND SURPLUS 1913-18
(In millions of dollars)

Year	Net Income	Dividends	Surplus before Taxes
	$	$	$
1911	3,213	2,225	988
1912	3,832	2,498	1,334
1913	4,340	2,871	1,469
1914	3,711	2,667	1,044
1915	5,184	2,766	2,418
1916	8,766	3,784	4,982
1917	10,500*	4,500	6,000
1918	9,500*	4,100	5,400

* Estimated.

The investigation into corporate savings took as a point of departure the net income of all corporations reported to the Commissioner of Internal Revenue for purposes of income and excess-profits taxes. These figures are available for the years 1910-13 inclusive in the Commissioner's report for the fiscal years 1911-14. For the years 1914 and 1915 the Commissioner of Internal Revenue published only figures for taxes assessed and collected, but from these figures the amount of earnings upon which the tax was based can be estimated with substantial accuracy. In 1916 the net income figures were once more published in "Statistics of Income." The figures for 1917 are estimated by using the returns published in the volume entitled *Corporate Earnings*, which was prepared in compliance with the Borah resolution; and by a study of the published returns of corporations. The figures of net income for 1918 can hardly be said to be anything more than an intelligent forecast based on a study of price movements and the quarterly reports of corporations.

The striking feature of these figures of net income is their enormous increase after the outbreak of the war. They express the increase in production which was stimulated by the European demand for our products, and the more rapid advance in the price

of products as compared with the prices of labor and materials.

In the report of the Commissioner of Internal Revenue the corporations are divided into five classes for the years 1910 to 1913. For 1914 and 1915 no figures of income are given, but the total may be computed from the taxes collected. In 1916 corporate net income is reported in "Statistics of Income" in eighteen main groups. These are so arranged, however, that they can be combined into five groups corresponding to the earlier classification. The net income of these different classes increased at varying rates and the percentage paid in dividends by each class varied widely. It was necessary therefore to divide the total net income for 1914 and 1915 into classes and to regroup the net income for 1916. The following table shows the net income of all corporations by classes for the years 1911-18.

TABLE V.—NET INCOME OF ALL CORPORATIONS IN THE UNITED STATES, 1911-18
(In millions of dollars)

Class	1911	1912	1913	1914	1915	1916	1917**	1918**
	$	$	$	$	$	$	$	$
Financial	457	482	439	425*	430*	528	630	600
Public Service.	806	930	1,003	850*	900*	1,541	1,550	1,200
Industrial	1,310	1,670	2,027	1,591*	2,790*	5,027	6,500	5,900
Mercantile ...	363	423	473	440*	572*	465	720	700
Miscellaneous .	277	327	398	405*	492*	1,205	1,100	1,100
Total	3,213	3,832	4,340	3,711	5,184	8,766	10,500	9,500

* Estimated as to distribution into classes
** Estimated

The next step was to determine the amount of the net income distributed as dividends by classes and years, and the amount which was retained as surplus. This was done by taking samples of the various classes of corporations and determining from their published data the percentage of dividends to net income and the percentage retained as surplus. In order to determine these items a study was made of the reports of national banks as published in the reports of the Comptroller of the Currency; of the statistics of state banks; of life insurance companies; the reports of railroads to the Interstate Commerce Commission; the reports of the more important public utility companies to the state commissions and in the standard manuals; and of 362 industrial corporations whose net income totaled $1,883,000,000 for the year 1916. The next tables show the results of this investigation when applied to the figures of net income in the table above.

TABLE VI.—ESTIMATED DIVIDENDS PAID BY ALL CORPORATIONS IN THE UNITED STATES 1911-18
(In millions of dollars)

Class	1911	1912	1913	1914	1915	1916	1917	1918
	$	$	$	$	$	$	$	$
Financial	342	372	319	335	311	370	420	400
Public Service..	609	717	693	730	665	843	840	700
Industrial	873	1,002	1,378	1,180	1,275	1,760	2,230	2,000
Mercantile	207	211	243	225	269	209	400	400
Miscellaneous ..	194	196	238	197	246	602	610	600
Total	2,225	2,498	2,871	2,667	2,766	3,784	4,500	4,100

TABLE VII.—ESTIMATED SURPLUS REINVESTED BY ALL CORPORATIONS IN THE UNITED STATES 1911-18
(In millions of dollars)

Class	1911	1912	1913	1914	1915	1916	1917	1918
	$	$	$	$	$	$	$	$
Financial	115	110	120	90	119	158	210*	200*
Public Service.	197	213	310	120	235	698	710*	500*
Industrial	437	668	649	411	1,515	3,268	4,270*	3,900*
Mercantile	156	212	230	215	303	256	320*	300*
Miscellaneous .	83	131	160	208	246	602	490*	500*
Total	988	1,334	1,469	1,044	2,418	4,982	6,000*	5,400*

* Before deducting corporation and excess-profits taxes.

The increase in net income of corporations for 1916 over former years is striking; but the increase in surplus for this year over former ones is much more so. The Class 1 and 2 railroads invested approximately $320,000,000 as surplus in the year ended June 30, 1916, as against an average of less than $84,000,000 for the eight years previous. A group of eighty-five public utility corporations whose surplus averaged $50,000,000 for the period 1911-14 retained $71,000,000 as surplus in 1915 and $109,000,000 in 1916.

Just as the most striking increase in net income occurred in the industrial group, consisting of mining and manufacturing corporations, so the largest increase in surplus occurred in these corporations. The published reports of 362 industrial corporations showed that they earned, after paying interest and taxes, $900,000,000 in 1915, of which they retained $497,000,000, or 55 per cent, as surplus. In 1916 these same corporations earned $1,883,000,000 and retained $1,219,000,000, or 65 per cent, as surplus. In 1917 earnings were $2,316,000,000 and surplus was $1,585,000,000 before deducting taxes. The figures of only 224 of these corporations are available over the entire period 1911-17. These are set forth in the table below, and show that during the years

1911-14 these corporations retained only 33 per cent of a much smaller income.

TABLE VIII.—STATISTICS OF INCOME, DIVIDENDS, AND SURPLUS FOR 224 INDUSTRIAL CORPORATIONS
(In millions of dollars)

Year	Net income	Dividends	Surplus	Per cent surplus to net income
	$	$	$	$
1911	431	287	144	33.3
1912	487	299	188	39.1
1913	507	328	179	35.3
1914	381	295	86	22.2
1915	664	327	337	50.9
1916	1,364	526	838	61.4
1917	1,750	600	1,150	65.7

When the facts concerning corporate savings are taken into consideration, it becomes clear that no accurate statement of the volume of savings or comparison of the different years can be made without including corporate surplus. In 1917 and 1918 a considerable portion of these corporate savings was paid as taxes. The same is true of a portion of the savings of individuals. In order to make a complete statement of the savings of these years it is therefore necessary to add the war taxes paid or reserved. The following table is a more nearly accurate presentation of the savings of the various years than the table of investments previously given.

TABLE IX.—CAPITAL INCREASE SHOWN BY INVESTMENTS, SURPLUS, AND WAR TAX RESERVES DURING 1913 AND 1915-18
(In millions of dollars)

Item	1913	1915	1916	1917	1918
	$	$	$	$	$
Industrial and railroad securities*..	1,645	1,435	2,186	1,529	1,345
Other securities, less deductions for refunding and for discount.......	1,000	1,000	1,500	1,000	500
Government securities					
Foreign	.....	1,275	1,381	805	640
United States	.....	.....	.....	5,833	11,760
State and municipal bonds**........	408	493	496	445	265
Corporate surplus after taxes.......	1,469	2,418	4,982	4,500	2,000
Gold and securities repurchased from abroad	.....	1,300	2,000	700	.....
War taxes paid or reserved........	.....	.....	.....	3,000	5,000
Total	4,522	7,921	12,545	17,812	21,510

* Reported by the *Journal of Commerce*
** Reported by the *Bond Buyer*

These figures are a pretty accurate index of the increase in savings during 1915 and 1916. They probably overstate the increase between 1916 and 1917 to some extent. After we entered the war there was considerable investment of corporate surplus in government securities. There is therefore some duplication in the figures above. There was also some purchasing of securities with bank loans; Hon. A. C. Miller of the Federal Reserve Board estimates that the banks own or hold as collateral five billion dollars of government securities. It must also be taken into account that the corporate surplus is expressed in terms of money, and in times of rising prices and increased inventories the surplus does not represent a commensurate excess of physical production over consumption. These three items may amount to as much as seven billion dollars in 1917 and 1918. If we deduct, therefore, three and one-half billion dollars from the figures shown in the table for both 1917 and 1918, the remaining totals will be as follows:

Table X

1913	$4,522
1915	7,921
1916	12,545
1917	14,312
1918	18,000

No allowance is included in the above table for the savings of different enterprises not under the corporate form of organization. These are large, and no doubt increase in somewhat the same manner as corporate savings. There is not much mining or manufacturing in this group, but the great mass of mercantile and professional activity is carried on under the private or copartnership form of organization.

The most important omission from the table, however, especially for 1917, is the savings of farmers. These no doubt increased enormously during the years 1917 and 1918. In 1917 especially only a negligible part of these was brought to the investment market by the farmers themselves. They were invested, as agricultural savings normally are, in the extension and improvement of farm machinery, live stock, and furniture; or in the discharge of indebtedness on mortgages or of obligations to banks and manufacturers of farm machinery. Agricultural savings depend more largely upon the value of farm products than upon any other single factor. The expenditures of rural families are rather constant, and every increase in the value of their product constitutes a fund, a large part of which is saved. The following table gives the value of farm products in the United States for the years 1911-

18, and shows that the farmers could easily make, during 1917 and 1918, large savings without any additional abstinence.

TABLE XI.—VALUE OF FARM PRODUCTS 1911-18, BASED ON PRICES AT THE FARM
(In millions of dollars)

1911	$8,819
1912	9,343
1913	9,849
1914	9,895
1915	10,775
1916	13,406
1917	19,331
1918	21,386

The large increase in the value of farm products is due both to an extraordinary rise in prices and to an increased output. The production statistics show that all the important farm crops except wheat and cotton were approximately 30 per cent larger on the average in 1917 than in 1913, and 20 per cent larger than in 1916. While wheat and cotton decreased somewhat, the prices were so much higher than in former years as to practically double the farmer's return from these crops.

The increase in agricultural wealth previous to the war was about $1,200,000,000 per annum. We may assume, therefore, that this amount was saved out of the $9,849,000,000 of farm products. The remainder was fed to animals on farms or used to defray the expenses and living costs of the farmer and his family. If we assume that 20 per cent of the farm products is fed to animals, and that the farmer's cost of production and of living was 20 per cent higher in 1916, 60 per cent higher in 1917, and 75 per cent higher in 1918 than in 1913, we are forced to the conclusion that agricultural savings had reached $2,800,000,000 in 1916, $4,800,000,000 in 1917, and $5,500,000,000 in 1918. This computation is set forth in tabular form below.

TABLE XII.—AGRICULTURAL SAVINGS
(In millions of dollars)

Description	1913	1916	1917	1918
	$	$	$	$
Value of all farm products	9,800	13,406	19,331	21,386
Fed to animals (20%)	1,960	2,681	3,866	4,277
Consumed by persons and sold	7,840	10,725	15,465	17,109
Expense of farm operation and cost of living	6,640	8,000	10,624	11,620
Savings	1,200	2,725	4,841	5,489

While the conclusion with respect to agricultural savings presented by this table rests on rather a broad assumption of fact, it

no doubt represents the general trend of agricultural savings. Even if the percentage of produce consumed on the farm were increased to 30 per cent, and the farmer's expenses and cost of living were increased 100 per cent—an altogether improbable hypothesis—the savings for 1918 would still be $3,650,000,000. The assumption expressed by the tabulation is reasonable and agricultural savings were no doubt approximately five billion dollars for 1918.

A portion of these funds came to the general investment market in 1915, 1916, and 1917. Farms during this period were actively paying off their mortgages and other indebtedness. An unusually large volume of real estate mortgages held by life insurance companies was paid during these years. The manufacturers of farm implements likewise experienced a great reduction in bills receivable and accounts receivable during this period despite the fact that the sales of farm machinery were large in 1915. This movement of funds was in part responsible for the abundant volume of capital available in the investment centers for the repurchase of American securities from abroad and for the absorption of European government issues. The greater portion of these savings during 1915, 1916, and 1917 went, however, into farm improvements and must therefore be added to the figures of savings given above.

When allowance is made for agricultural savings reinvested in farms and for the reinvested earnings of individuals and partnerships, the following figures, which were presented in the first table, are sustained.

Table XIII

1913	$6,500,000,000
1915	9,000,000,000
1916	14,500,000,000
1917	18,000,000,000
1918	22,000,000,000

Are these conclusions with respect to the increase of savings during the war reasonable in view of the course of production and prices during the same period? Statistics of production show that there has been an increase of 25 per cent in actual physical output since 1913. This increase had been pretty well realized by 1916, and despite the withdrawal of men from industry by the military establishment has been maintained since. Such statistics as are available show that consumption has not increased more than 12½ per cent during the same period. The national income in 1913 is estimated at $34,500,000,000; of this amount $6,500,-

000,000 was saved and $28,000,000,000 was therefore consumed. If prices had remained constant then the increase in production and consumption would have increased savings to $11,500,000,000, as shown in the following table.

TABLE XIV
(In millions of dollars)

Item	1913	Increase	1916	1918
	$	%	$	$
National income or product........	34,500	25	43,000	45,000
Consumption	28,000	12½	31,500	33,000
Savings	6,500		11,500	12,000

In this tabulation the product, consumption, and savings are all shown at the price level of 1913. To state the savings of the later years in terms of the price level of those years they must be increased by the ratio which the level of each year bears to 1913. According to the Bureau of Labor index number of wholesale prices, this was 123 per cent in 1916, and 196 per cent in 1918. Expressed in terms of 1916 prices the savings of that year were $14,145,000,000. For 1918 savings amounted to $23,500,000,-000. These figures of production and consumption are based to some extent on estimates; they do, however, show that the conclusions with respect to the increase in savings do not involve any improbable assumptions with respect to the course of industrial process.

In the following table an attempt has been made to show what classes have supplied this total of accumulated savings and how it is divided among them. The table divides the supply of capital into the portions accumulated by corporations through the retention of income as surplus instead of disbursing the same out as dividends; by other business enterprises not under the corporate form of organization; by farmers; and by all other classes out of their individual incomes.

TABLE XV.—TOTAL EXCESS OF PRODUCTION OVER CONSUMPTION
(In millions of dollars)

Item	1913	1915	1916	1917	1918
	$	$	$	$	$
Corporations	1,500	2,400	5,000	6,000	5,400
Other business enterprises..........	1,200	2,000	3,000	3,500	3,600
Farms	1,200	2,000	2,800	4,800	5,500
All other savings..................	2,500	2,600	3,700	3,700	7,500
Total	6,400	9,000	14,500	18,000	22,000

During this same period our national income has increased from \$34,500,000,000 in 1913 to over \$70,000,000,000 in 1918.[3] Enormous as are the increases in savings expressed in dollars the percentage of our income saved increased only moderately. The savings of 1913 were approximately 20 per cent of the income of that year, while those of 1918 were 30 per cent.

The data here set forth to support the hypothesis that the European War has produced a large increase in the excess of production over consumption in America lead to several relevant conclusions:

1. The feats of war finance, both in the collection of taxes and the flotation of loans in this country, were made possible by the situation with respect to production and savings which had developed previous to our entrance into the war. The principal thing needed was to devise ways and means of diverting the excess of production over consumption, already forthcoming, from private uses into the public coffers by taxes and government loans.

2. No adequate explanation of the movement of the rate of interest during the years 1915 and 1916 is possible which does not take into consideration the increased supply of capital which grew out of industrial activity and profits.

3. The psychological factors of abstinence and the underestimation of future goods are entirely inadequate to explain the fluctuations in the supply of capital. In periods of rapidly increasing production and profits a high interest rate is not necessary to stimulate savings. In such periods the institutional situation which characterizes modern industry produces an enormous increase in the supply of capital. The causal relation at such times does not run from a high rate of interest to an increased supply of capital. Instead, factors outside the capital market produce an increase in its supply, and this operates to keep the interest rate low. One is reminded here of Cassel's statement that "much work remains to be done before we get a real knowledge of the manner in which the total amount of waiting depends upon the rate of interest. As to such knowledge, we cannot pride ourselves on being much in advance of the English authors of the seventeenth century, such as Sir Josiah Child and Sir William Petty."[4] The whole field of the statistics of savings certainly deserves much more thoroughgoing and detailed attention than it has yet received.

[3] B. M. Anderson, The *Annalist,* Jan. 6, 1919, p. 5.
"Taxable Income of the United States," *Journal of Political Economy,* December, 1918, p. 952.

[4] G. Cassel, *The Nature and Necessity of Interest,* page 43.